

Modular Port Link Status		up TX multiplexer data source
LinkOK	Active	
false	Don't care	
Don't care	false	
true	true	

Table 2 - Truth table for up Port TX multiplexer data source

IN THE CLAIMS

Add new claims 27-40:

--27. (New) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

- (i) three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets;
- (ii) multiplexers which can provide a respective data path for packets to each one of the ports from either of the other two ports selectively; and
- (iii) control logic for determining for each port a link status and for controlling the multiplexers to bypass any one of said ports when the respective link status indicates that data packets are not to be received from that port.

28. (New) A connecting unit according to claim 27 wherein there is one of said multiplexers for each port and each such multiplexer is controllable to direct to the respective port data packets from either one of the other two ports selectively and

wherein the multiplexers bypass a port by preventing supply of packets from that port to the other two respective ports.

29. (New) A connecting unit according to claim 27 wherein each port is arranged to transmit and receive control messages so as to determine the link status of the respective port.

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30. (New) A connecting unit according to claim 29 wherein each port has respective lines for the transmission and reception of the control messages separately from the data packets.

31. (New) A connecting unit according to claim 29 wherein the control logic determines that data packets are not to be received from a port when the control logic determines an absence of control messages received by that port.

32. (New) A connecting unit according to claim 29 wherein the control messages include a field for representing the link status as if it were false.

33. (New) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

(i) three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets and for

transmitting and receiving control messages separately from the data packets from the connecting unit;

- (ii) multiplexers which can provide a respective data path for packets to each one of the ports from either of the other two ports selectively; and
- (iii) control logic for determining for each port a link status depending on whether control messages are received by the port and for controlling the multiplxers to bypass any one of said ports when the link status corresponds to the absence of reception of control messages at that port.
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34. (New) A connecting unit according to claim 33 wherein there is one of said multiplexers for each port and each such multiplexer is controllable to direct to the respective port data packets from either one of the other two ports selectively and wherein the multiplexers bypass a port by preventing supply of packets from that port to the other two respective ports.

35. (New) A connecting unit according to claim 33 wherein the control messages include a field for causing the control logic to treat the reception of control messages as the absence of control messages.

36. (New) A connecting unit according to claim 33 wherein the control logic is arranged to receive by way of the first port control messages indicating an identification number and to provide from the second port control messages modified to indicate an increase in the identification number.

37. (New) A connecting unit according to claim 33 wherein the control logic is arranged to receive by way of the first port control messages including a count which represents a number of active communication units and to provide from the second port control messages including a count which is incremented or not according as an active communication unit is coupled to the third port.

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38. (New) A connecting unit for use in a system comprising a plurality of network communication units having a cascade connection including said connecting unit, the connecting unit comprising:

- (i) three ports consisting of a first, second and third port, each port of the connecting unit being adapted for forwarding and receiving data packets and for transmitting and receiving control messages separately from the data packets from the connecting unit;
- (ii) for each port, a respective multiplexer which is controllable to direct to the respective port data packets from either one of the other two ports selectively whereby the multiplexers can bypass a port by preventing supply of packets from that port to the other two respective ports; and
- (iii) control logic for determining for each port a link status depending on whether control messages are received by the port and for controlling the multiplexers to bypass any one of said ports when the link status corresponds to the absence of reception of control messages at that port.

39. (New) A connecting unit according to claim 38 wherein the control messages include a field for causing the control logic to treat the reception of control messages as the absence of control messages.

40. (New) A connecting unit according to claim 38 wherein the control logic is arranged to receive by way of the first port control messages including a count which represents a number of active communication units and to provide from the second port control messages including a count which is incremented or not according as an active communication unit is coupled to the third port.--

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